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ABSTRACT

Economics teachers at the secondary and postsecondary level are provided with an overview and general recommendations for effective use of games and simulations. Material is divided into two sections. In section 1, a description of card games, board games, activities, and puzzles is followed by a discussion of the advantages of each of these types of games and the suggested procedure for using games in the classroom. Teachers are also provided with directions for designing their own board games, and a sample game which familiarizes intermediate grade and junior high school students with various types of taxes. Section 2 contains an evaluation of role-playing and simulation activities as well as materials for conducting a world poverty simulation in high school or university classrooms. (LP)

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GAMING AND SIMULATIONS IN ECONOMICS

by
Lawrence R. Dale

SO 015 410

Paper presented at the Joint Council on Economic Education Conference (San Antonio, TX, October, 1983).

INTRODUCTION

Games can be an exciting supplement to a well-organized curriculum plan that will enhance the learning process and create a positive image for any subject matter. Games should not replace time-tested traditional teaching methods but support them in their objectives of increasing learning.

TYPES OF GAMES

Games are flexible but highly structured tools that require the use of formal paraphernalia. There are three broad categories of games, as treated in this text including: card games, board games and activity games.

Card games are the simplest type of games and are effective in introducing single terms, or a few related terms, or as a review of those terms. The major exception is the flashcard which provides the learning or review of a vast number of concepts in a short period of time. Flashcards can be very valuable, but since they do emphasize rote learning need the backing of experience oriented activities. Card games tend to be shorter in play length and may need to be utilized more than once to maximize their effectiveness.

Card games usually focus in on individual terms or a small group of related terms. There are three types of card games based upon their objectives: matching card games, point card games and indirect card games.

Matching card games, like "Sucker" and "Resource Dominoes", involve matching terms with examples of the term or matching specified sets or categories of terms. Matching games are relatively easy to play and provide a basic review of a given concept or term.

Point games, such as "Paperwork" and "Farming", are more complex. The major goal of these games is to gain necessary points and become the winner. This often involves a variety of different maneuvers.

Cards may also be used indirectly as a tool or learning device to enrich the experiential learning of a group without the need for travel or extensive equipment aids. Unlike the other card games, the indirect use of cards as in the "Money and Barter" game, can only be done once since achievement of the learning objective destroys the mystique of the play. The debriefing sessions become critical to the complete function of the activity.

Board games may be used either as a review or introduction of broader concepts which can include a variety of related terms. The inclusion of additional terms tends to make board games a little more complicated and time consuming. Primary grade teachers can narrow the focus of a board game to prevent it from becoming too complicated for young children, as in the sample of "Our City" which has both a primary and intermediate elementary version.

Activity games tend to have a specialized focus that may be either very broad or specific in nature. There are two major types of activity games: puzzles and imagination exercises.

Puzzles require very specific learning skills and will prove most effective as a test or review of material already covered in class. Crossword puzzles, hidden message puzzles, and scramblers may prove to be a refreshing change from the traditional test for both the teacher and pupil. They are normally utilized individually for maximum impact. Imagination exercises are unstructured both in directions that are provided and outcomes expected of the learner. They are most valuable in helping students discover the decision-making process given a specified set of cognitive information. Imagination exercises, such as "People in Space" or "Supply and Demand" may be used as an individual exercise for homework or classwork. These exercises may also be utilized with flexibility in small group settings where interaction between students is desired, or in large group settings where pupil teacher discussion is to be encouraged.

ADVANTAGES OF GAMES

Games have many features that make them worthwhile learning tools.

Games, particularly teacher-made or teacher-modified ones, can provide individualized formats to meet precise instructional needs. The board games provided in this text have an expressly designed feature called quiz cards. Teachers may place questions on these cards that come directly from their lesson plans. Students will review selected material any time they land on this space. Since the quiz cards must contain the answer, the player to the right of the one landing on the square must read the questions.

Games are also enjoyable and exciting for students and will create a positive attitude toward any subject matter. Teachers who frequently use games realize that they modify student responsiveness to more traditional teaching approaches. Games establish a relaxed atmosphere in which all types of learning and discovery prosper.

Well-designed learning games attempt to reflect realistic life situations in a manner that is more simplified and easier to grasp. This includes an emphasis on decision making even in the most structured of games. Educational theoriests have long praised the superiority of experiential learning and, in many cases, a good game or simulation is the only practical way to provide such experience in our mass audience, highly structured school settings. Children who play games will be able to practice the decision making process both as individuals and, in some cases, in a group setting. Games also provide immediate feedback relative to the success of our decisions and encourage the exploration of alternatives. For this reason, games prove most effective with repeated exposures and debriefing.

A major advantage to card and board games, in particular, is that they all have strong similarities and are not difficult to learn if properly initiated. Games frequently share a similar objective, to gain points or make money. While a few games in this text, such as Missouri Resources, emphasize cooperation, most games value competition and have a winner who earns his/her position.

Most games are student-directed learning units which are played in small groups, usually two to eight players, within a thirty to sixty minute time frame. The length of play makes most games very adaptable to the typical time constraints established in the classroom.

Games cultivate substantial secondary skills, particularly in math and reading. Children experience counting money, adding or subtracting points, simple percentages and reading as well as following written instructions.

Teachers need to be aware of some of the problems associated with using learning games and to compensate for them in order to maximize the learning experience.

A major problem with games is that, while most children respond eagerly to gaming, some students will not enjoy games. Some students may be too shy, too hyperactive, too slow, lack imagination or skills, or even too intelligent to play a particular game. All children should be encouraged to participate but occasionally some accommodations may be necessary. The teacher can minimize disinterest by properly orienting students to play the game and by choosing games that are both appropriate and challenging without becoming taxing or threatening to the student.

The simplistic nature of most games can become a disadvantage, particularly in work with very bright students. If children are bored by a game, then it is not sufficiently challenging to provide a learning experience. While the games in this text provide age and ability guides the teacher must use his or her professional judgment regarding the value of a game in a specific situation.

Board games require the use of small delicate pieces that are frequently lost or misused. The materials presented in this book are reproduceable, reducing the cost of such losses. Teachers should closely monitor the use of games to prevent undue loss or destruction.

The fact that most games must be played in a small group setting limits their scope and utility. These limits are overcome if gaming is part of a vibrant

curriculum that includes numerous learning techniques and materials.

Games are most effective with elementary age children since older students may have preconceived notions about the appropriateness of a game. The games that prove successful with older students must be sufficiently sophisticated without being too complicated.

Games can be time consuming in terms of the preparation needed to create the proper atmosphere, in developing the games and game pieces, and in actually playing the game. These ready-made games can reduce the time needed in preparing the game pieces, usually without sacrificing the individual character needed to suit specific curriculum requirements. Educators must decide if the motivational and learning value of a particular game is worth the class time consumed in its use and development.

Some object to the fact that games are too structured and do not place enough emphasis on individual imagination. The structured nature of games makes them a valuable learning tool but again they should be mixed with other tools that develop creativity, decision making and other important qualities.

Games also place significant emphasis on competitive behavior and winning which should not be over-emphasized since they can distract from the learning purpose of the game. Teachers can avoid over-emphasizing competitiveness by properly setting the mood in the preparation phase of the play and in the follow-up debriefing.

There have been few attempts to systematically explore the learning potential of gaming. More research must be done in this area of curriculum development.

Some teachers may fear or mistrust games and these feelings can only be overcome through experimentation and use. In order to be effective, debriefing skills must be improved along with skills in working with small groups. The biggest threat to many teachers in using games is the student-directed nature of the activity. Rigid time schedules, unmovable furniture, and unrealistic behavior expectations do not provide a good atmosphere for gaming or other experience-based learning techniques.

GAMING IN THE CURRICULUM

Games are frequently designed for use with small groups of pupils. The games can be set up in two basic patterns.

The small group-large class set up allows the entire class to play a game at once. It has the advantage of easy preparation and provides a good atmosphere for debriefing. This pattern is most useful when the game is either acting as an introduction to a specified unit or as a review session. This game pattern also makes it possible to keep on a set time schedule and structure the learning situation.

The instructional center organization pattern takes advantage of the repetitive learning factor in gaming. Teachers may set up a series of learning stations throughout the classroom; one could emphasize gaming, another creative writing or artistic projects, and another research. These centers could be open during homeroom, recess, lunch, study halls, before class, and during class when students have completed a test or other classwork early. This approach makes good use of otherwise dead time to promote or review instructional materials. Students must become familiar with the material in advance which requires some introductory group exploration in the classroom. Teachers may even wish to permit students to check materials out over night or on weekends. Some teachers have used the interest centers as a reward or incentive system for good behavior or excellence in class work.

Whichever pattern is chosen, games can be an integral part of an effective learning experience.

GAMING PROCEDURES

In order to make the best use of games, it is important to follow a set procedure with the students.

INTRODUCTION: Students need to have the objectives of games explained thoroughly. They need to understand that educational games are designed to be exciting learning tools and it should be clear that students will be expected to answer questions about the game after it is completed. Discuss the technical details about the use of games. Students should be expected to handle the games with care by putting everything back neatly when they are finished and keeping the interest center in order. Students need to know when the games will be played and how much time is alotted. A teacher may wish to have a schedule of usage and a sign-up sheet available.

Specific details about general expectation related to gamed playing should be presented to the class. All rules should be written out to reinforce the students' memories.

SETUP: The teacher should begin a discussion of a specific game by explaining the major objective of it (i.e. to get the most money, collect points, or make certain matches).

Next, display the game pieces and explain how they contribute to the play. If you are in a small group-large class set-up each group can look at the pieces as you discuss them.

You should explain the learning objectives of each game and how it fits into current curriculum activities.

Now the class will be ready for you to read the directions to the game. Each game that you prepare should have a copy of the directions included for the student's information.

You may wish to answer student questions before the play begins. It is important to keep the set-up phase brief, yet informative.

THE PLAY: Each game comes with a complete set of instructions. However, the games are designed to be flexible in order to suit specific needs and situations. Any variations should be carefully explained. Some situations may arise that require new or varied rules. It is best to allow students input into rule additions or changes.

Most of the games have been designed to fit a twenty to sixty minutes time frame. The board games and many of the card games can be timed to fit particular scheduling needs since no time reference has been established.

Debriefing: The educational benefits of any game are enhanced by discussing the activities of the play. The games include sample follow-up questions that should prove useful in debriefing. You may wish to go over the objectives of the play and then discuss them with the class to determine if the students understood those ideas from the play. Related terms and concepts have been listed to help the teacher plan the discussion and the use of games within the curriculum.

Designing a Board Game

It is not difficult for a teacher to design a simple board game which will focus in on one specific learning area and serve either as a review of or introduction to that topic.

The first step is to select a general theme from which sub-topics and concepts will be drawn (i.e. inflation, energy, budgeting, etc.). The theme must permeate the games play if learning is to be achieved.

The teacher is now ready to decide the general goals of the play. There are two traditional goals which are commonly used in learning games. The first goal is to obtain the most money or points during the play and thus be declared the winner. (Paperwork and Resources Dominoes involved stockpiling points. Tax and Economies have goals of obtaining the largest income to be declared the winner.)

The second general goal is to complete some specified task, or be the closest to completing that task, in order to be declared the winner.

In "Sucker", "Cover-up", and "Nations" the player is trying to either match terms with examples or make specified sets or pairs of example relating to one term in order to be the winner.

In "Energy" and "Missouri Resources" the player uses money to build up the local economy (or provide energy resources) in order to win.

"GNP" tests the players' understanding of the process of figuring the Gross National Product and of related terms. There is no winner in the traditional sense.

Once you have selected a theme and decided the general goal of the play you are ready to sketch the game board. You may wish to use the traditional rectangular shaped board with five to seven spaces on the short side and ten to twelve on the long. The sides adjacent to each other should have the same number of squares. Boards may also be round, square, triangular, or otherwise varied in shape if that meets the needs of the activity.

Now you are ready to begin filling in the squares with play instructions. One space, preferably a corner if the board is rectangular, should be set aside as the starting place for all players.

Cards will enhance the play tremendously. Each set of cards should have a slightly different focus and should be limited to two or three sets per game (taxes provide an exception to the rule). Cards may:

1. Quiz students and reward them for their knowledge (Tax, Economics).
2. Increase or decrease income or points (Our City, Economics).
3. Present opportunities which challenge the student or change the course of the play (Regulation, Economics, Energy).
4. Force the purchase of certain items to affect the play (Taxes, Our City).
5. Provide news headlines which affect the play of the game (Energy, Missouri Resources).

Examples of each of these users of cards can be found in the gaming section. Four to eight spaces on the board should be set aside for each set of cards. Designate a word or design to represent the specific set of cards. Each set of cards should contain from ten to twenty-five cards each. It is advisable not to repeat a card more than once in the deck.

The remaining squares can be filled in with by spaces which have universal appeal:

1. Taxi stand - This space provides a ride to any other space on the board for a set amount of money.
2. Jail or City Hall - This space can inflict fines or result in the loss of a turn.
3. Tax - This space inflicts a tax on the player.

The other squares should relate to the general play and give specific directions to the participants. A variety of examples have been provided to help in the design of the board and the content of cards and other materials. Often these objects

can be easily adapted to original games developed by the teacher.

In designing a game try to simulate a realistic situation as much as possible. Realism is important to the value of the game as a learning tool.

Games: Macroeconomics
Name: Tax
Grade Level: 4 to 8

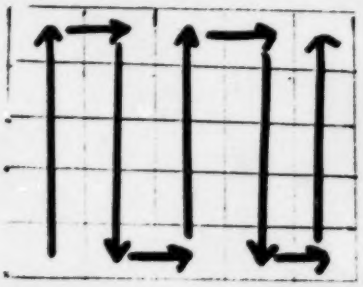
Objective: To familiariarize students with the various taxes used to pay for public goods and services.

Related Terms and Concepts: Progressive tax, regressive tax, value-added tax, sales tax, income tax, excise tax, property tax, specialty taxes and income.

Currency: $100; $500; $1,000; $5,000; $10,000 and $50,000

Goal of the Play: The winner is the one who has the most income left at the end of the game and has made all of the required purchases.

The Play: Each student begins with $50,000 in cash. Roll the die and move the correct number of spaces as shown on the grid. You MUST stop at each of the eight end squares even if you do not have the exact roll, and follow the instructions on the game board. Each player must purchase the basic necessities (home, food, car, and miscellaneous goods) and pay the required taxes. The rest of the spaces give the necessary directions for actions.



Cards:

Lucky Card - This gives special financial situations that may help you get through the year with some money left or may cost you money.

Question Cards - These cards ask questions. If the person landing on the space answers them correctly, there are rewards paid. The person to the right should read the questions aloud.

Tax Cards - These cards provide information on taxes along with special problems and prospects for the player.

Note: This game only shows the tax side of governmental activity. Follow up discussion should present the many services and goods provided by state, local and national governments.

LUCKY CARDS: (TAX GAME)

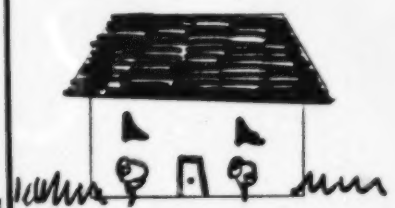
Receive tax rebate from state income tax of $1,000.	Pay legal fees of $500.	Spend a turn at the hospital.
Receive a gift from the mall. You do not have to stop and make a purchase.	Double your charity contribution.	Go back 3 spaces or pay $1,000.
Won hog calling contest. Collect $500.	Buy 2 grocery items from Sam's grocery.	Move ahead 4 spaces and receive $500.
Pay moving expense of $100 and pick a new house (pay the difference if you already have a home)	Win $3,000 in free food coupons for use at Sam's Grocery only.	Receive $1,000 rebate from auto dealer.
Won court case. Receive fine refund of $1,000. (After legal fees)	Go back to the rental square and pick up a second summer cottage.	You have won the Irish Sweepstakes. Collect $2,000 after taxes.

Receive tax rebate from State Income Tax of $1,000.	Receive a gift from the mall you do not have to stop and make a purchase.	Win Hog Calling contest and collect $500.
Pay moving expanse of $100 and pick a new house (pay the difference if you already have a home).	Win court case and receive fine refund of $1000 after legal fee's.	Pay legal fees of $500.
Double your charity contribution.	Buy 2 grocery items from Sam's.	Win 3,000 in Free Food coupons for use at Sam's Grocery only.
Win the Irish Sweepstakes and collect $2,000 after taxes.	Spend a rurn at the hospital.	Go back 3 spaces or pay $1,000.
Go ahead 4 spaces and receive $500.	Receive $1,000 rebate from Auto Dealer.	Go back to the rental square and pick up a second summer cottage.

Lucky Cards (Tax Game)

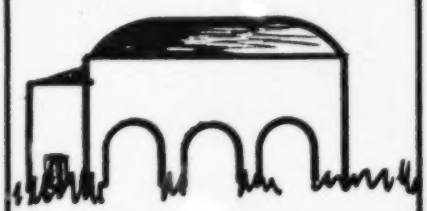
OWN-VICTORIAN HOME $6,000

OWN-BOX HOUSE $250

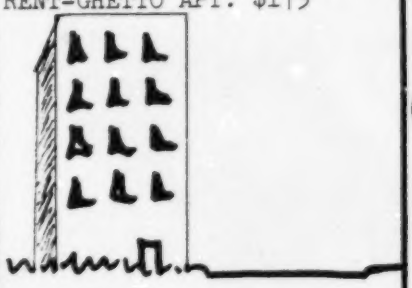


SOUTH SEAS HUT $500 (rent)

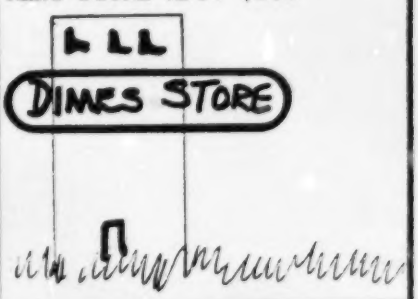
OWN-SPANISH VILLA $750



RENT-GHETTO APT. $175

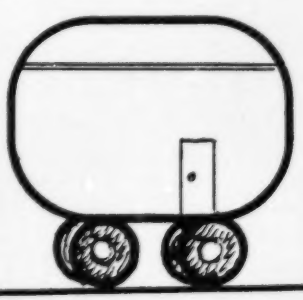


RENT-STORE APT. $200

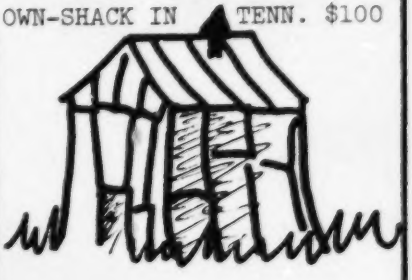


RENT-2 BEDROOM $500

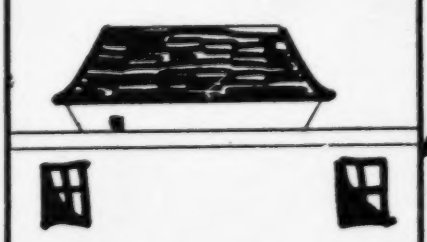
OWN-TRAILER $750



OWN-SHACK IN TENN. $100



RENT—PENTHOUSE $2,000

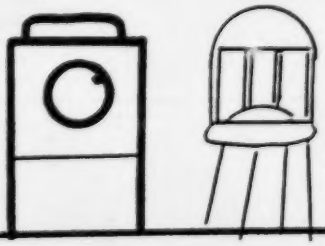


RENT-A-TENT $50

USED CHICKEN COOP $50

VACANT DANCE HALL $100

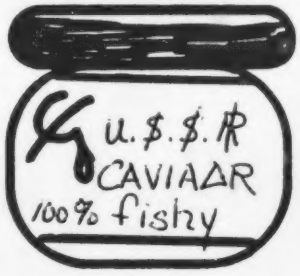
LAUNDROMAT $150



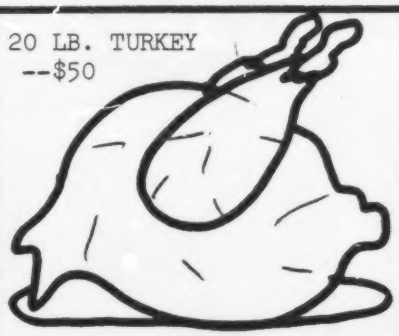
ARMY COT $50

HOME (TAX)

U.S.S.R. CAVIER--$700

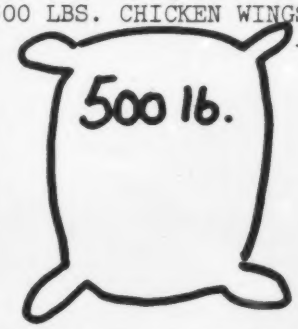


20 LB. TURKEY --$50

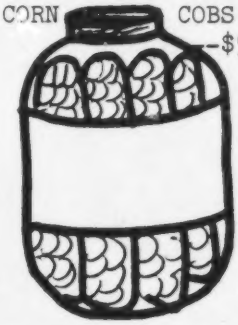


1/2 STEER --$425

500 LBS. CHICKEN WINGS --$100



CREAMED CORN COBS --$50



SACK OF GROCERIES --$200

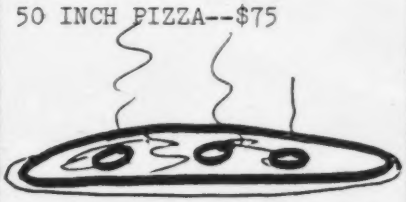
TUNA SURPRISE FOR 300 --$500

3 CASES OF TOMATO SOUP --$100

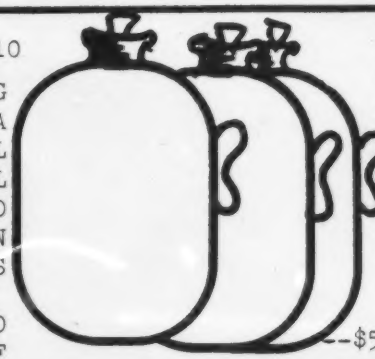
3 HAMS--$200

300 CORNISH GAMEY HENS --$500

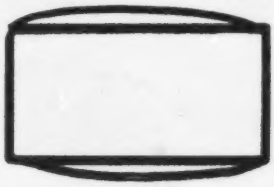
50 INCH PIZZA--$75



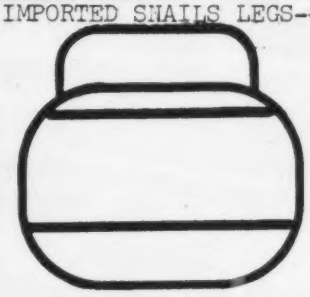
10 GALLONS OF LEMONADE --$50



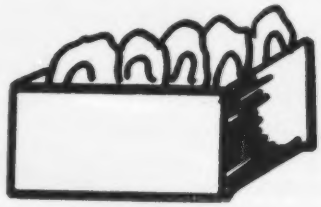
PHEASANT OF THE SEA TUNA --$100



IMPORTED SNAILS LEGS--$300



500 SUGAR DONUTS--$250



SAMS (TAX)

DESOGMER DRESS--$800

FINGER NAIL FILES--$250

LEATHER COAT--$700

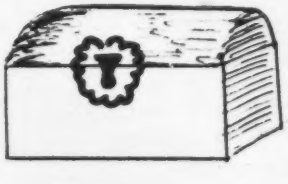
AUTOMATIC POCKET-SIZE FOOT WARMER $185

14th CENTURY CHINA BULL--$9,000

OPERA GLASSES--$250

HOUSE PLANT --$50

BASIC TRUNK--$150

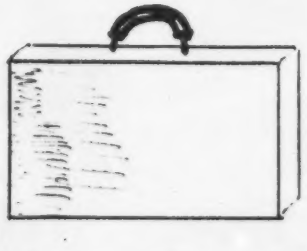


LEATHER SHOES--$125

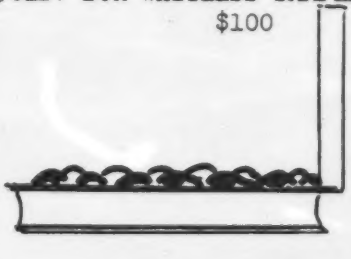
DIAMOND RING--$5,000

PURPLE MAN'S SHIRT--$50

SUITCASE--$200



50LB. BOX WHITLESS SAMPLERS $100

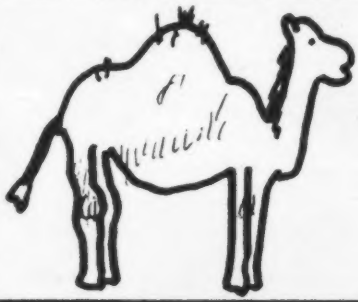


COWHIDE PURSE--$100

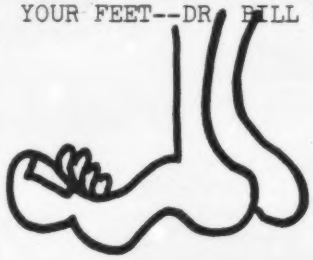
MINK STOLE--$500

MAIL (TAX)

CAMEL--$200 (WITHOUT SADDLE)



YOUR FEET--DR. BILL $250



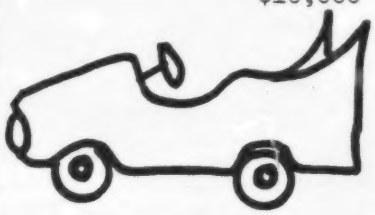
LASSIE AND WAGON--$300

1952 HENRY J--$700

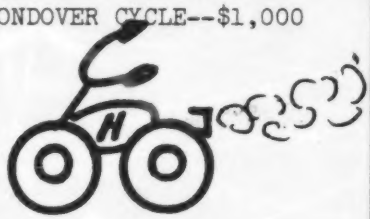
USED CHEVY VAN--$4,000

HORNET--$5,000

PURPLE CADILLILLYACK--
$10,000

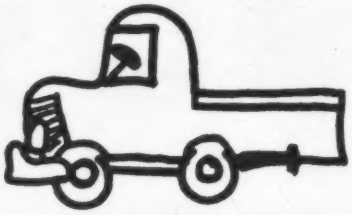


HONDOVER CYCLE--$1,000



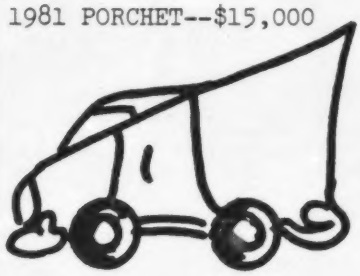
TOY-OF-OTTO HUNCHBACK--
$3,900

1963-DODGEUM TRUCK--$250

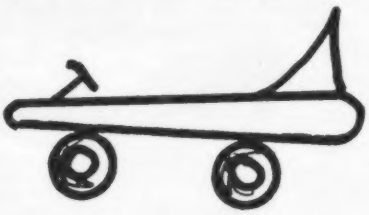


FIATZ 2000--$7,900

1981 PORCHET--$15,000



MOTORIZED SURF BOARD--$420



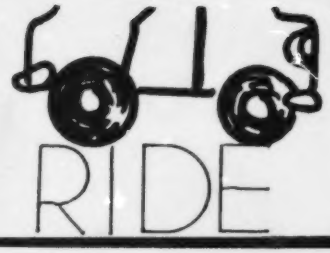
UNICYCLE--$125

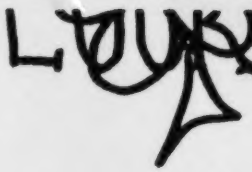
BICYCLE FOR 2--$200

V.A.T. Tax (a sales tax on each stage of production) of $100 is imposed on all items you buy in the future.	V.A.T. Tax (repeat) of $200 is imposed on all items you buy in the future.	SALES TAX of 10% is imposed on all future purchases.
SALES TAX of 5% is imposed on all future purchases.	EXCISE TAX on special luxuries must be paid on tires $100.	SIN TAX on liquor and cigars cost you $200.
Pay EMPLOYMENT TAX (on all workers in the family) of $100.	Pay SCHOOL TAX OF $200.	Pay PROPERTY TAX on your home of $100.
Pay PERSONAL PROPERTY TAX (cars and furniture) of $50 per car and $150 for furniture.	Pay UTILITY TAX OF $200 for telephone and electric use.	Pay UTILITY TAX of $500 for telephone and electric use.
Pay GASOLINE TAX of $500 if you own a gas driven vehicle	Pay WINDFALL PROFITS TAX OF $1000 on excessive income from all revenue.	Pay IMPORT DUTY OF $100 on all goods you receive from now on.

Gasoline is taxed by which of the following: state, local, federal (both state and local $500	Name a progressive tax? (Luxury or income tax) $100	Name a tax that acts like a user fee? (gasoline tax) $100	Name a non-progressive tax? (sales, property, utility, excise) $200	In a sales tax which group pays the largest portion of their income in tax: rich, middle, poor? (poor-regressive tax) $100
What is fiscal policy (taxing and spending to control business cycles) $300	Spell "Fiscal Policy" $100	What is an excise tax? (tax on "luxury" items such as jewelry and tires) $100	What is a sin tax? (tax on alcohol, tobacco, or other sinful activities) $100	What is a progressive tax? (tax that requires a larger portion of income be paid by higher income groups) $100
What is proposition 13? (a law to limit property taxes--began the tax revolt) $200	What does a Laffer curve explain? (shows that increasing tax rates can lower tax revenue) $500	The largest source of local income? (property tax) $200	The largest source of state income is? (sales tax) $200	The largest source of Federal Income is? (personal income tax) $200
Is the U.S. Export Tax progressive? (by law we have no export tax) $300	Social Security Tax is distributed based on need? (false; based on payment into the system) $100	Who pays the Social Security Tax? (workers & employers) $100	Does Hotel-Motel Tax act like a Sales Tax? (true) $100	What kinds of workers are exempt from Social Security? (Federal Workers & some state & local workers) $100
What is a publican? (Roman tax collector) $500	Name a regressive tax? (sales tax) $100	All sales tax goes to the state? (false; local too) $100	Gasoline has a sales tax? (no--has a gas tax) $100	Windfall profits tax applies to all industry? (only oil companies) $100

? (TAX GAME)





Bill

PICK A HOME CARD
NOW PAY 10% OF VALUE

IF OWNED, $50.00 IF RENTING

GO

TO BLUE IRS AND PAY $1,000.00

TAX REBATE

RECEIVE $350.00

?

ADD $100.00 TO YOUR NEXT PURCHASE

?

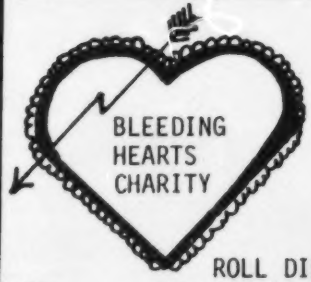
TAX

EACH PLAYER BEGINS WITH $50,000.00

START

YOU ARE ALL WHITE COLLAR WORKERS

13



GIVE $1000.00

ROLL DIE AND GET $100. REBATE PER ROLL

RENT DUE

IRS

PICK A CARD
YOU ARE BEING AUDITED

SAM's

GROCERIES

20

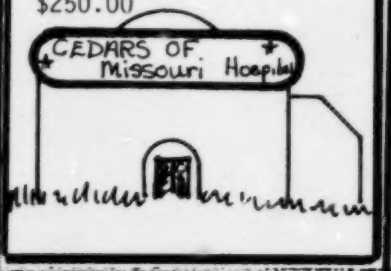
SMILIN' JACKS
NEW & USED
CAR SALES

IRS

PAY 20% OF YOUR INCOME
$10,000.00

LOVER'S
MALL

ROLL DIE, IF EVEN MOVE
AHEAD, IF ODD LOSE 1
TURN AND PAY BILL OF
$250.00



Finish

PAY $100.00 TO

no-mo-TAX
INC.

TO FIGHT HIGH TAXES OR
MOVE BACK ONE SPACE

LUCKY

PAY $100.00 ON NEXT
PURCHASE AT LOVERS MALL

MOM'S
DAY

SALES
TAX

PAY $1000.00

TAX

IF YOU ROLLED AN ODD
NUMBER TAKE 2 CARDS

TAX

Value
Added
Tax

PAY $200.00

FREE

21

TAX

TAX

FIND
$500

22

Simulations

Simulations are beneficial learning tools that allow students to experience realistic situations in a convenient classroom setting. There are two types of simulations: role playing and the standard simulation.

Role playing is a completely open and spontaneous learning situation in which the student is given only general instructions concerning his or her role and a background setting. Several students participate in the role play with a similar set of instructions. Typically a role playing experience gives little or no information about the actions of other participants. The goal of role playing is to observe the reactions of students in a situation under which they have wide controls over the action, and are influenced more by the deeds of peers in the performance than by specific directions, which are usually confined to small index cards. Role playing does not usually have much of an introduction, since that might influence the outcome unduly. The debriefing becomes vital to the success of the role playing situations, but the unstructured nature of the activity makes it difficult to provide more than a general suggestion for questions. The debriefing is highly individualized to the specific setting and situation under which it develops. Teachers must practice and experiment with role playing since no two experiences will have identical outcomes. The role playing situations in this text provide some parameters for play and should aid in teacher preparation.

The standard simulation is more structured than role playing situations with the setting and backgrounds more expressly defined. Student roles are confined to specific personality characteristics within particular guidlines. The simulation is much more flexible than a game with outcomes determined by a combination of factors including role assignment, personalities, individual interpretation of a situation, teacher direction and interference, and student attitudes.

Simulations place primary emphasis on oral skills and decision making. Some of the simulations also require the use of written, artistic, mathematical and reading skills.

An effective simulation reflects realistic experiences, but attempts to sharpen the focus to specific terms, concepts, or ideas through its structure and direction. The simulation may have paraphernalia (dice, maps, cards, money, etc.), but they are usually designed to enhance the simulation or make it more realistic and are frequently not vital to the activity.

The simulation has many positive attributes as a learning experience. It presents real, rather than vicarious learning to the students which should reduce dislearning. All ages find the simulation experience exciting and enjoyable if they are appropriate to the groups' interest and ability. The simulations in this text are complete and like most simulations require almost no expense to duplicate.

Simulations will accommodate wide variations in student ability and can be redesigned for a specific objective or grade level student.

Simulations involve students in an experience-oriented discovery approach to basic decision making that is both realistic and open to individual needs and creativity. Discipline problems are minimized during a good simulation and usually carry over to other learning experiences which follow. Simulations place the emphasis on decision making within a group set, as opposed to competition and winning.

There are some problems which the teacher should be prepared for when using a simulation. The emphasis on oral skills can cause some students to avoid participating in the action while others dominate the play. The teacher can reduce this effect by a careful selection and guidance process that balances student involvement. Student skills might be matched to specific situations although it is a good idea to vary student roles in order to broaden the individual's exposure to varied experiences.

Simulations are less teacher directed and more unstructured than many learning activities, requiring more preparation in debriefing to maximize the potential of simulations.

Simulations have a drawback in that, unlike games, they must take up class time since they require large group participations. This means that teachers must be

careful when selecting simulation experiences. Simulations are rarely individualized to meet personal needs, but the group interaction involved is an important part of the aggregate experience of all people.

Simulation Procedures

Most simulations have a short group orientation that sets the background in which all decisions will be made. A variety of roles, often different in function, require some small group or individual orientation sessions. These should be planned to minimize the distractions they cause. Clear written instructions can prevent long, oral sessions that place the bulk of the class in a holding pattern with nothing to do.

The simulations vary relative to the structure, but most contain timed rounds with specific instructions for each round.

Each simulation or role playing suggestion contains several questions for the debriefing session that should follow each simulation. With a little work in providing the proper advanced preparations and followup activities blended to create the right atmosphere for a simulation, they will prove to be an exhilarating learning experience for everyone.

Simulation: International Economic Issues
Name: You've Got the Power!
Concept: World Poverty
Grades: Nine to University Level
Objectives: To help students recognize some of the major causes of international scale poverty including:

1. Rapid population growth
2. Lack of productivity and industrialization
3. Lack of skilled labor and poor educational opportunities
4. Income inequality
5. Increased spending on non-productive military hardware

Related Terms and Concepts: Decision-making, wealth, and economic goals

This simulation requires an overhead projector. The instructor may wish to transcribe the script on tape, particularly if you plan to use it more than once. *

Phase I: Selecting and Rating Economic Goals

First divide the class into national groups. Each group will be given a nation's card with actual vital statistics. In this phase students will prioritize the goals for their nation. Each group should select a president and recorder.

Instructor Reading #1

International Survival: The Developing Nations

You are the leaders of a developing or underdeveloped nation of the world. Your goal is to improve the standard of living of your people, and thus promote political and economic stability.

You have five alternatives which you must rate from the most important to the least important goal. Place these priorities on Sheet #1. Your goals are:

Promote Economic Growth

This means your people will have to make some sacrifices (such as using less energy for personal needs, saving, increasing productivity, etc.). It also means finding outside funding which will not be as available in a nation with a history of political instability.

Political Stability

Political Stability must be maintained to prevent military takeovers (so common in the past), and both internal and external agitation. It requires using more funds for the military that could have been used for economic growth. It also requires promoting democratic decision-making which may impede the implementation of other important programs.

Reducing Population Size

Population reduction programs are not popular because of religious and traditional attitudes, but current rates of growth are destroying most small economic gains you as a nation have made since the 1940s.

Educational Advancement

New and improved educational and medical facilties will promote growth in the long run but slow down short run progress. Medical improvements also cause the population growth rate to increase. An educated populace is vital if you are to have the doctors, lawyers, teachers, and engineers to develop further.

Income Redistribution

More even distribution of income and wealth is also important. You, like other third and fourth world nations, have extreme inequalities of wealth. On an average 5% of your people own 90% of the wealth. The wealth of your nation must be more evenly distributed.

Now discuss and rate these. Give your highest a 5, then 4, 3, 2, and 1 for the least important goal. The recorder should mark sheet #1 with your responses.

Keeping in mind your goals, you must make decisions that will further those goals--your success or failure will decide whether you will continue to rule or not. If your scores fall below ONE a coup will take place and the remainder of the group will select a new leader.

**Vital statistics for the nine nations listed on page 64 should come from a current almanac and include GNP, literacy, population, exports, life expectancy, etc.

Phase II: Decision-Making

(Read to Class) Each group will now be faced with a series of five problems which must be solved, keeping the group's original goals in mind. The readings will provide all necessary instructions.

After each situation is read you may expose the upper portion of the proper overhead. When the decisions have been made and recorded, then you may expose the schedule. Allow a few minutes for the mathematics, then determine if the nation retains its leaders. Remember all scores are cumulative (e.g. if you have a -6 in Round 1 carry that over to Round 2.)

Situation #1 involves the purchase of military hardware.

The United States is offering you 1.5 billion dollars worth of military equipment, requested by the former government. Your relations with your neighbors have not been good and political extremists, both right and left, have control of much of the countryside. Your army is underequipped and some replacements are needed. You have up to 20 years to pay this bill at no interest. You also need to decide whether or not to increase military spending in general. Your choices are:

1. Purchase the equipment and increase military spending by 10% with no change in military size
2. Purchase one-half of the equipment over a 20 year period
3. Reduce the purchase to one-fourth and cut military spending by 10%
4. Make only vital purchases of parts and reduce the size of your military by 20%

Before making a decision listen to what some of the citizens have to say.

Army General: "Our army must have this equipment--national survival demands it, with armies crowding our border ready to strike and terrorists bombing, shooting, and kidnapping citizens for their own gains on a daily basis. Without this minimal support no guarantees can be made."

Religious Leader: "We cannot afford such excesses. One-third of our people are starving while another one-third are badly undernourished and have poor medical facilities. These are the cause of our internal political problems--solve those and you won't need the guns."

Educator: "I am opposed to an increase in the size of the army--the draft has reduced university attendance dramatically. Those bright young people are our future hope."

Now make your decision.

Instructor: Uncover the scores once all groups have made a choice.

Now that you have made your decision take handout #2 and place the goal numbers (1 through 5) in the correct circles. Then check the selection you made on the issues and put the numbers in that column. (Show an example.)

If you decided that growth was most important (#5), then stability 4, population reduction 3, improved education 2, and income redistribution 1, and you also selected choice #1, then your sheet should look like this (show overhead #1) your total score would be -3 for the first round.

Follow the same procedures for the other four situations.

Situation #2 involves the problem of population growth.

Note: Place appropriate overhead covering scores.

In your country live births per 1000 women are four times that of developed nations; and even with a shorter life expectancy, your population is doubling every decade (and may be worse in the 80s if trends continue.)

Something must be done to prevent this dramatic increase in population. These are your options:

1. Educate people concerning the problem
2. Provide education and free birth control technology
3. Provide subsidies to families with two children if they will not have any more kids.
4. Tax families for each child in excess of two
5. Free abortion-birth control clinics, incentives for sterilization in

families with more than two kids.

6. Enforced birth controls with no couples allowed more than two pregnancies. This includes forced sterilization, penalties, severe fines, and public condemnation for refusal to participate in the program.

Before making your decision, listen to what these citizens have to say.

Medical Doctor: "We have already passed the critical point. If this nation is ever to develop, we must take temporary emergency measures to cut our birth rate dramatically. One-third of our people are near starvation with thousands dying each year. We just cannot feed the increase and aid only postpones the problem."

Religious Leader: "We certainly have an obligation to inform our people about the population problem. They are intelligent, religious people who will take steps to control family size naturally. Any proposal beyond this is tantamount to murder and will be opposed by all moral men and women. Spend that money to feed the poor and encourage the rich to share."

Economist: "Using taxes and subsidies should be enough to discourage overpopulation. Nothing should be done that imposes on the freedom of the individual."

Now decide. (Keep schedule covered up until the decision is made)

Situation #3 involves foreign investment in your nation.

Several major U.S. corporations want to open four plants in your nation with 50% control by the corporation. You will be expected to provide land sites and 50% of the funding for which the government will receive one-half the profits. This will reduce unemployment by 23% and create a higher standard of living in your nation. These are your options:

1. Make the deal
2. Make the deal but ask for 60% of the profit
3. Give money to national business
4. Build state-run plants
5. Do nothing

Before deciding listen to these citizens.

Industrialist: "We are opposed to this plan. The government pays too much of the cost while receiving too small a share of the profit. It's not right for our people to work to put money into the pockets of American fat cats--give us the dollars and we will build smaller industries, but it will all be home owned."

American Business: "This is a good deal for you. We are taking a big risk. Many of the backers of this plan will not stand for any modifications."

Now make your decision.

Situation #4 involves education facilities.

The minister of Education has submitted a plan to upgrade your educational system using funds set aside for economic growth. Additions will be made to your one medical school and a new one will be built to serve the southwestern sector of the nation. Two new universities will be built and others expanded if the full plan is implemented. Your options are:

1. Build the new facilities
2. Improve facilities at one medical school and one university
3. Upgrade current state universities and the medical school
4. Make no changes
5. Cut expenditures for these facilities and use the funds for industrial expansion.

This is what some prominent citizens have to say about your possible decisions.

Minister of Education: "The future is our young people. Industrial growth, better schools, better hospitals--all depend upon educated people to build and run them. A small investment now will bring big dividends in the future."

Industrialist: "Certainly these expenditures will stimulate growth in 20 to 25 years, but the crisis is now. That same money could be used to build factories that could be producing in 18 months and provide thousands of jobs. Leave the future to our children; let's straighten out the present first."

Make your decisions.

Situation #5 involves decisions about income distribution in your nation.

Five percent of the people in your nation control 95% of the wealth (land, capital, and other natural resources). Even though 80 to 90% of your people farm, less than 4% own their own farm. This is a major cause for political unrest. These are your options:

1. Aid small farmers with low interest loans.
2. Raise inheritance tax on land which will free one to three percent of the land per decade.
3. Reduce total acreage to 100,000 that one person may own. The former owner will receive fair compensation.
4. Reduce total acreage to 25,000 that one may own with reduced compensation.
5. Reduce total acreage to 1000 maximum that one may own with no compensation. Divide the land among the poor.

This is what some prominent citizens have to say.

College Student: "You are worried about riots in the universities, terrorists in the countryside, kidnappings, etc. They wouldn't exist if poverty were eliminated--drastic measures should be taken now. Those fat cats deserve no compensation. Their fathers have stolen from us for centuries. The land, at least, should be taken and given to the workers, the people."

Lawyer: The problem is certainly critical. We must not violate the rights of some to protect or improve life for others. I would support any measure that would supply fair compensation to those who are asked to sacrifice."

Landowner: "Make loans available to the poor. Most of our farmers are willing to sell our land for a fair profit, but force will not be tolerated."

Now make your final decision.

Phase III: Wrap-up

It is advisable to discuss the simulation. You should cover some of the basic problems of poor nations.

Discussion Questions:

1. What are the causes of world poverty other than those covered by the simulation?
2. What are some international solutions?
3. Do you expect things to get better, worse, or stay the same?

Note: The Schedule Goals are designed to fit realistic situations. The team's rating of goal will either lessen or strengthen the impace of more extreme choices. For example, if you selected choice #6 on Situation 2 and Stability was an important goal you would be hurt by that choice. The first and last choices tent to be more extreme opposites and will impact based upon the total goals choices.

Overhead A

				Sample
Decision I: Military Hardware				
(5)	X	[-2]	=	-10
Economic Growth				
(4)	X	[3]	=	12
Stability				
(3)	X	[0]	=	0
Population				
(2)	X	[-2]	=	-4
Education				
(1)	X	[-1]	=	-1
Redistribution				-3 (Total)

Decision (Circle one) 1 2 3 4

Handout 1

FACT SHEET

WORLD POPULATION: The world had its first billion people in 1800. It took 125 years to add another billion. The third billion was added 30 years later by 1955, and the fourth billion in 1975. It is estimated that one billion more will inhabit the earth by 1983.

Poorer countries:

a) Lack productive resources, particularly those of a high technology calibre (i.e., skilled labor, advanced tractors, modern steel mills, etc.)
b) Have a low median age, which means there are more people under 18 who add little to national output.
c) Have high birth rates but lowered death rates due to modern medicine.
d) Show an annual growth rate of .8% or less on average.
e) Have 80 to 90% of the population engaged in marginally productive farming.

GOALS:

Economic Growth - requires some sacrifice in consumer goods now. May need outside help as well.

Political Stability - requires strong military but should be coupled with increased democratic government and reform efforts.

Population Reduction - In order to enhance economic growth you must bring down population growth rate.

Improved Educational and Medical Facilities - Long run, economic well-being depends upon doctors, lawyers, teachers, and engineers.

Income Redistribution - Some effort must be made to reduce income and wealth inequality.

Decide the importance of these goals by placing 5 by the most important down to 1 in the least appropriate circle.

Handout 2

Decision I: Military Hardware

X = _____

Economic Growth

X = _____

Stability

X = _____

Population

X = _____

Education

X = _____

Redistribution

Decision (circle one) 1 2 3 4

Decision II: Population Control Board

X = _____

Economic Growth

X = _____

Stability

X = _____

Population

X = _____

Education

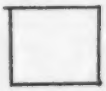
X = _____

Redistribution

Decision (circle one) 1 2 3 4 5 6

Handout 3

Decision III: New Foreign Plants

X  = _____

Economic Growth

X = _____

Stability

X = _____

Population

X = _____

Education

X = _____

Redistribution

Decision (circle one) 1 2 3 4 5

Decision IV: New University Facilities

X = _____

Economic Growth

X = _____

Stability

X = _____

Population

X = _____

Education

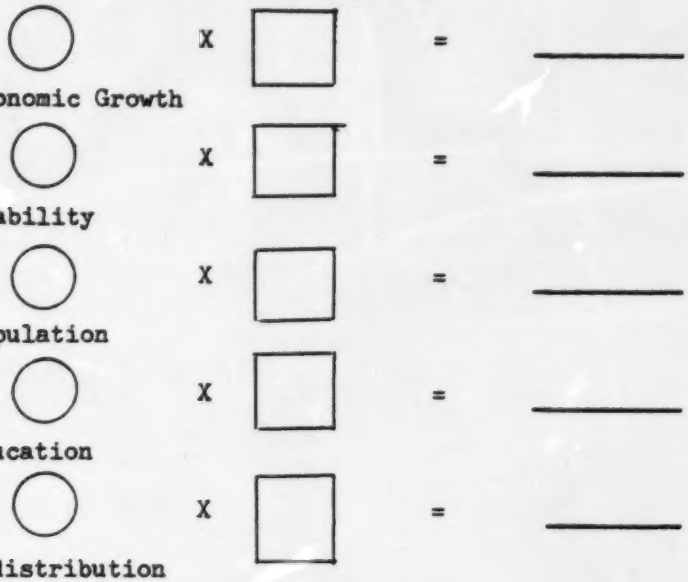
X = _____

Redistribution

Decision (circle one) 1 2 3 4 5

Handout 4

Decision V: Redistribution Program



Overhead 1

Situation 1 Options:
1. Purchase 1.5 billion in arms, increase spending 10%
2. Purchase (½) 750 million in arms, no change in military size
3. Purchase (¼) 375 million in arms, cut spending 10%
4. Make only vital replacement purchases; reduce army 20%

Schedule Goals	Purchase all	Purchase one-half	Purchase one-fourth	Only Vital Needs
Economic Growth	-2	-1	0	+2
Stability	+3	+1	-1	-3
Population Reduction	0	0	0	0
Education	-2	-1	+1	+2
Income Redistribution	-1	-1	0	0

Situation 2 Options:

1. Educate populace about the population problem
2. Education and free birth control technology
3. Subsidies to families with only two kids
4. Tax on families with more than two kids
5. Free abortion and birth control technology, incentives for sterilization
6. Enforced birth control

Schedule Goals	1	2	3	4	5	6
Economic Growth	0	+1	+2	+3	+4	+2
Stability	-1	0	0	-1	-2	-3
Population Reduction	-3	-1	-1	+1	+2	+4
Education	+3	+2	+1	0	-3	-3
Redistribution	+2	+1	0	0	-1	-3

Overhead 2

Situation 3 Options:

1. Make the deal with the U.S. businesses
2. Make the deal with your nation getting 60% of the profit
3. Give the money to national businesses
4. Use the money and build state-owned/run businesses
5. Do nothing

Schedule Goals	1	2	3	4	5
Economic Growth	+4	+2	+1	+1	-2
Stability	-1	-1	1	-1	-2
Population Reduction	+1	0	0	0	+1
Education	+1	+1	0	-1	-1
Redistribution	+1	+1	-4	-3	-4

Situation 4 Options:

1. Build the new facilities
2. Improve facilities at one medical school and one university
3. Upgrade current buildings
4. Make no changes
5. Cut educational funds and use to build new plants

Schedule Goals	1	2	3	4	5
Economic Growth	0	+1	+2	+3	+4
Stability	-1	0	0	-1	-2
Population Reduction	-3	-1	-1	+1	+2
Education	+3	+2	+1	0	-3
Redistribution	+1	+1	0	0	-1

Overhead 3

Situation 5 Options:

1. Aid small farmer with low interest loans
2. Inheritance tax increase
3. Fair compensation, maximum farm size 100,000 acres
4. Partial compensation, maximum farm size 25,000 acres
5. No compensation, maximum farm size 1,000 acres

Schedule Goals	1	2	3	4	5
Economic Growth	+1	+2	+3	0	-3
Stability	+1	+2	+3	+2	+1
Population Reduction	-1	-2	0	0	+1
Education	-1	+1	-2	-2	0
Redistribution	0	+1	+2	+3	+4

TALLY OF NATIONAL DECISIONS

	BRAZIL	CAMEROON	CHAD	DJIBOUTI	EGYPT	HAITI	INDIA	INDONESIA	MALAYSIA
MILITARY HARDWARE									
POPULATION CONTROL									
NEW PLANT									
UNIVERSITY									
LAND REFORM									
TOTAL									